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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHEW, JOHN	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/990,754	FEUERSTRAETER ET AL.	
	Examiner	Art Unit	
	John L. Shew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/6/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8,9,15 and 23* is/are allowed.

6)☒ Claim(s) *1-5,7,10-12,14,16,17,19-22 and 24-28* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 10, 14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 30, 37 of copending Application No. 09/990916. Although the conflicting claims are not identical, they are not patentably distinct from each other because the apparatus of claims 10 and 14 are functionality equal to the method of claims 30 and 37 of copending Application No. 09/990916.

Claims 24, 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 43 of copending Application No. 09/990916. Although the conflicting claims are not identical, they are not patentably distinct from each other because the system of claims 24 and 28 are functionality equal to the apparatus of claim 43 of copending Application No. 09/990916.

Claim 10 cites "An apparatus comprising: control logic to identify a processing capability of a remote network device; and a media access controller (MAC), responsive to the control logic,".

Application 09/990916 claim 30 cites "A method comprising: identifying a communication capability of a remote device; dynamically aggregating, if necessary, multiple media access controllers (MACs), based, at least in part, on the identified communication capability of the remote device,".

A single media access controller to perform the identification function is equal to the aggregation of media access controllers to the same function.

Claim 10 cites "to selectively reduce an effective data rate of a communication channel with the remote network device based, at least in part, on the identified processing capability of the remote network device, wherein the MAC is to selectively reduce the effective data rate by selectively injecting control elements".

Application 09/990916 claim 30 cites "to establish a virtual data sub-channel within a physical data channel for communication between a communication interface and the remote device; determining whether a data rate of the virtual sub-channel is compatible with the communication capability of the remote device; and reducing the data rate of the virtual sub-channel if the data rate is not compatible with the communication capability of the remote device".

The establishment of a data rate of a communication channel is equal to establishing the data rate of a virtual sub-channel.

Claim 10 cites "wherein the MAC is to selectively reduce the effective data rate by selectively injecting control elements".

Claim 14 cites "wherein the MAC selectively inserts a number of frames comprising idle control elements between successive frames of substantive content associated with a communication with the remote device to reduce the effective data rate of the communication channel".

Application 09/990916 claim 37 cites " wherein reducing the data rate of the virtual sub-channel comprises inserting idle control elements between substantive frames of a data stream of the virtual sub-channel".

Claim 24 cites "A system comprising first and second network elements capable of intercommunicating, wherein the second network element comprises logic to identify receiving rate capability of the first network element;".

Application 09/990916 claim 43 cites "An apparatus comprising: control logic, to identify a communication capability of a remote device communicatively coupled with the apparatus through a communication link;".

The first and second network elements intercommunicating equates to the apparatus and the remote device coupled through a communication link.

Claim 24 cites "logic to selectively reduce a data rate within a communication channel with the first network element based, at least in part, on the identified processing capability of the first network element, wherein the logic to selectively reduce a data rate is to reduce the data rate by injecting control elements".

Claim 28 cites "wherein the first and second network elements apply auto-negotiation to determine an acceptable transmission rate for the communication session".

Application 09/990916 claim 43 cites "a plurality of media access controllers (MACs), responsive to the control logic, aggregated by the control logic to establish a 10 gigabit per second (Gb/s) physical channel, or a sub-10Gb/s virtual channel within the 10Gb/s physical channel to facilitate communication from the apparatus to the remote device based, at least in part, on the identified communication capability of the remote device, wherein the control logic further to determine whether a data rate of the established channel is compatible with the communication capability of the remote device and

cause the aggregation of MACs to reduce the data rate of the established channel if the data rate is not compatible with the communication capability of the remote device". The auto-negotiation of the acceptable data rate is equal to the establishment of a 10Gb/s or sub-10Gb/s rate based on the communication capability of the remote device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 3, 4, 5, 7, 19, 20, 10, 11, 12, 14, 21, 22, 16, 17, 24, 25, 26, 27, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timm et al. (Patent No. 6055268) in view of Barlev et al. (Pub. No. US 2005/0220180 A1).

Claim 1, Timm teaches a method comprising identifying a processing capability of a remote device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67)

referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and slowing an effective data rate within a communication channel with the remote device based at least in part on the processing capability of the remote device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110. Timm does not teach wherein slowing comprises injecting control elements.

Barlev teaches wherein slowing comprises injecting control elements (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 2, Timm teaches wherein identifying the processing capability of the remote device comprises sending a capability request (col. 19 lines 58-67, col. 20 lines 1-15)

referenced by the channel probing tones representing the various rate Carrierless AM/PM or Discrete MultiTone messages, and receiving a response to the request denoting at least the processing capability of the remote device (FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 3, Timm teaches wherein identifying the processing capability of the remote device comprises receiving an indication from the remote device denoting at least the processing capability of the remote device (col. 18 lines 65-67, col. 19 lines 1-3, FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 4, Timm teaches wherein the indication also denotes a communication capability of the remote device (col. 18 lines 65-67, col. 19 lines 1-3, FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 5, Timm teaches further comprising establishing at least one virtual channel within the communication channel (FIG. 7a, col. 23 lines 26-36, col. 24 lines 61-65) referenced by the Software Driver layer 7310 7410 communicating through a virtual channel of a DLC which is subsequently encapsulated for transmission over the Communication Hardware Layer using DMT subchannels, each virtual channel having a

data rate less than that of a maximum transmission rate of the communication channel (col. 23 lines 9-43) referenced by the Software Driver layer being an upper layer to the Communication Harware Layer and thus has a data rate less than the Communication Hardware Layer, and wherein the data rate of each virtual channel is based at least in part on the identified processing capability of the remote device (col. 23 lines 31-40) referenced by the number N of kbit/sec channels wherein the N is based on processing capability of the device.

Claim 7, Timm teaches wherein at least the processing capability of the remote device is obtained through auto-negotiation (FIG. 7f, col. 27 lines 11-17) referenced by the overall rate negotiation method wherein the Change Throughput step 7965 modifies the rate according to the remote device capabilities.

Claim 19, Timm teaches wherein the communication channel comprises an Ethernet compatible communications channel (FIG. 2d, col. 11 lines 24-29, lines 60-67, col. 12 lines 1-25) referenced by the support of 10 Base T Ethernet to the customer premises thus the channel is Ethernet compatible.

Claim 20, Timm teaches a multimode digital modem. Timm does not teach wherein the slowing the effective data rate within a communication channel comprises injecting idle control elements between successive frames of substantive content.

Barlev teaches wherein the slowing the effective data rate within a communication channel comprises injecting idle control elements between successive frames of substantive content (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 10, Timm teaches an apparatus comprising control logic (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-18, FIG. 1d, col. 9 lines 42-53) referenced by the DSP controlling the multimode modem 100, to identify a processing capability of a remote network device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and a media access controller (MAC) (col. 7 lines 39-46) referenced by the MDSL software controlling the MAC sublayer of the network system, responsive to the control logic to selectively reduce an effective data rate of a communication channel

with the remote network device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120, based at least in part on the identified processing capability of the remote network (col. 6 lines 54-67, col. 7 lines 1-5) referenced by the rate negotiation to maximize throughput based on processing power, wherein the MAC is to selectively reduce the effective data rate (col. 7 lines 16-46, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 with the interface through the MAC sublayer of the MDSL. Timm does not teach selectively reduce the effective data rate by selectively injecting control elements.

Barlev teaches teach selectively reduce the effective data rate by selectively injecting control elements (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 11, Timm teaches wherein the control logic sends a capability request to the remote device (col. 18 lines 65-67, col. 19 lines 1-10, lines 58-67, col. 20 lines 1-15) referenced by the channel probing tones representing the various rate Carrierless AM/PM or Discrete MultiTone messages, and receives a response to the request denoting at least the processing capability of the remote device (FIG. 7a, col. 22 lines 51-67, col. 23 lines 1-25, lines 58-63) referenced by the Rate Request and Available Rate Notify sent over the Communication Hardware layers 7330 7430.

Claim 12, Timm teaches wherein the control logic receives a broadcast indication from the remote device denoting at least the processing capability of the remote device (col. 7 lines 2-5, FIG. 2g, col. 14 lines 11-38) referenced by the data rate requests transmitted to a Wireless Network Unit from a customer premises modem wherein the transmission are broadcasts over a wireless medium inclusive of the rate negotiation messages.

Claim 14, Timm teaches wherein the MAC is associated with a communication with the remote device to reduce the effective data rate of the communication channel (col. 7 lines 16-46, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 with the interface through the MAC sublayer of the MDSL. Timm does not teach selectively inserts a number of frames comprising idle control elements between successive frames of substantive content.

Barlev teaches teach selectively inserts a number of frames comprising idle control elements between successive frames of substantive content (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols within frames of substantive content.
It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 21, Timm teaches wherein the communication channel comprises an Ethernet compatible communications channel (FIG. 2d, col. 11 lines 24-29, lines 60-67, col. 12 lines 1-25) referenced by the support of 10 Base T Ethernet to the customer premises thus the channel is Ethernet compatible.

Claim 22, Timm teaches wherein the MAC to selectively reduce the effective data rate within a communication channel (col. 7 lines 16-46, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 with the interface through the MAC sublayer of the MDSL. Timm does not teach to inject idle control elements between successive frames of substantive content.

Barlev teaches teach to inject idle control elements between successive frames of substantive content (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols within frames of substantive content.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 16, Timm teaches a computer-readable storage medium comprising content which when executed by an accessing computing device (FIG. 1c, col. 9 lines 29-40) referenced by the memory SRAM 184 containing line code programs for execution by the DSP 150 of the modem 100, causes the device to implement a scalable network interface (FIG. 2a, col. 10 lines 45-52) referenced by the Central Office rack of modems, to identify a processing capability of a remote network device (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the remote Mid-band Digital Subscriber Line of the Residential modem to determine identify its line code capability/preference in which the rate negotiation is based on processing power, and to selectively reduce an effective data rate of a communication channel between the

accessing computing device and the remote network device based at least in part on the processing capability of the remote network device (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110, wherein the device is to selectively reduce the data rate (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110. Timm does not teach reduce the data rate by injecting control elements.

Barlev teaches reduce the data rate by injecting control elements (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 17, Timm teaches wherein the scalable network interface reduces the effective data rate of the communication channel (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110. Timm does not teach interjecting a number of frames comprising idle control elements between successive frames of substantive content associated with a communication session between the accessing computing device and the remote network device. Barlev teaches interjecting a number of frames comprising idle control elements between successive frames of substantive content associated with a communication session between the accessing computing device and the remote network device (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate before transmission out to the modem units.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 24, Timm teaches a system comprising first and second network elements capable of intercommunicating (col. 7 lines 2-5, FIG. 3b, col. 16 lines 9-11, col. 18 lines 40-67) referenced by the second network element Mid-band Digital Subscriber Line of the Central office modem sending probing tones to the first network element Mid-band Digital Subscriber Line of the Residential modem, wherein the second network element comprises logic to identify receiving rate capability of the first network element (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-29, col. 18 lines 65-67, col. 19 lines 1-10) referenced by the control logic of the DSP 150 establishing the transmission rate negotiation, and logic to selectively reduce a data rate within a communication channel with the first network element based at least in part on the identified processing capability of the first network element (col. 7 lines 2-5, lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the capabilities determined by throughput based on processing power and reduced rate capability of the MDSL-R for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110. Timm does not teach wherein the logic to selectively reduce a data rate is to reduce the data rate by injecting control elements. Barlev teaches wherein the logic to selectively reduce a data rate is to reduce the data rate by injecting control elements (FIG. 14, page 21 para. [0275]-[0277], FIG. 20, page 23 para. [0296]-[0299]) referenced by the modem elements assigned bit rates as multiples of 64 Kbps with the FEC codewords padded with zeros or idle symbols which effectively slows the data bit rate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the high speed access system of Barlev to the multimode digital modem of Timm for the purpose of transporting a high speed data stream over a plurality of relatively low bandwidth copper pairs within a local loop plant as suggested by Barlev (page 3 para. [0031]).

Claim 25, Timm teaches wherein the first network element includes a media access controller (col. 7 lines 32-46) referenced by the MDSL software controlling the MAC sublayer of the network system controlling the host miniport driver.

Claim 26, Timm teaches wherein the first network element includes a media access controller capable of processing transmissions at a speed less than that which the second network element is capable of transmitting (col. 6 lines 54-59) referenced by the upstream transmission from Residential to CO at a throughput of up to 400 Kbps and a downstream transmission from CO to Residential at a throughput of 400 Kbbs to 2.048 Mbps.

Claim 27, Timm teaches wherein the first network element comprises logic to identify receiving rate capability of the second network element (FIG. 1a, col. 8 lines 53-67, col. 9 lines 1-29, col. 18 lines 65-67, col. 19 lines 1-10) referenced by the control logic of the DSP 150 establishing the transmission rate negotiation between the CO and Residential modems, and logic to selectively reduce a data rate within the communication channel

with the second network element based at least in part on the identified processing capability of the second network element (col. 7 lines 16-32, FIG. 1a, col. 8 lines 53-67, col. 18 lines 65-67, col. 19 lines 1-16, lines 62-67, col. 20 lines 1-15) referenced by the reduced rate capability of the MDSL-C for interface to the Voice Band Analog Front End 120 which is a channel of lower frequency than the DSL Analog Front End 110.

Claim 28, Timm teaches wherein the first and second network elements apply auto-negotiation to determine an acceptable transmission rate for the communication session (FIG. 7f, col. 27 lines 11-17) referenced by the overall rate negotiation method wherein the Change Throughput step 7965 modifies the rate according to the remote device capabilities.

Allowable Subject Matter

2. Claims 8, 9, 15, 23 are allowed.

Claim 29, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Shew whose telephone number is 571-272-3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

js

FRANK DUONG
PRIMARY EXAMINER